

Listing of Claims

Claims 1-6 (canceled)

Claim 7 (previously presented): A control circuit for an electromagnetic operating mechanism, the control circuit comprising:

a timer;

a first electronic switching device including a voltage follower and including a first output connected in series with an operating coil of the electromagnetic operating mechanism, the first electronic switching device being configured to activate for a duration of a pickup phase of the electromagnetic operating mechanism after a control voltage has been applied via the timer;

a second electronic switching device including a switching path connected in series with the operating coil, the second electronic switching device being turned on while the control voltage is present;

a rectifier circuit connected to a control input, the rectifier circuit including a second output and being configured to supply a smoothed operating voltage at the second output;

a step-down DC voltage converter connected downstream of the rectifier circuit, the step-down DC voltage converter including a third output and being configured to supply a smoothed holding voltage at the third output; and

a voltage source controllable by the timer and configured to activate the first electronic switching device by a pickup voltage;

wherein:

the timer is activatable by a ramping up of the operating voltage;

the operating coil and the switching path of the second electronic switching device form a series circuit connected to the first output;

the series circuit and the first electronic switching device are suppliable with the operating voltage; and

the third output, the first output, and a control input of the second electronic switching device are interconnected, the third output being interconnected via a forward biased isolation diode.

Claim 8 (previously presented): The control circuit as recited in claim 7 wherein the electromagnetic switching device includes an operating mechanism.

Claim 9 (previously presented): The control circuit as recited in claim 7 wherein the timer includes an integrating RC element.

Claim 10 (previously presented): The control circuit as recited in claim 7 wherein the timer includes a differentiating RC element.

Claim 11 (previously presented): The control circuit as recited in claim 9 wherein the RC element is combined with a voltage-limiting device.

Claim 12 (previously presented): The control circuit as recited in claim 10 wherein the RC element is combined with a voltage-limiting device.

Claim 13 (previously presented): The control circuit as recited in claim 7 wherein the voltage source includes a voltage-limiting circuit and a threshold circuit having an input side, the voltage-limiting circuit being supplied with the operating voltage and having a fourth output operatively connected to a switching path of a the threshold circuit, the input side of the threshold circuit being connected to the timer.

Claim 14 (previously presented): The control circuit as recited in claim 7 further comprising a free-wheeling device connected in parallel with the switching path of the second electronic switching device.

Claim 15 (previously presented)): The control circuit as recited in claim 9 wherein the voltage source includes a voltage-limiting circuit and a threshold circuit having an input side, the voltage-limiting circuit being supplied with the operating voltage and having a fourth output operatively

connected to a switching path of a the threshold circuit, the input side of the threshold circuit being connected to the timer.

Claim 16 (previously presented): The control circuit as recited in claim 10 wherein the voltage source includes a voltage-limiting circuit and a threshold circuit having an input side, the voltage-limiting circuit being supplied with the operating voltage and having a fourth output operatively connected to a switching path of the threshold circuit, the input side of the threshold circuit being connected to the timer.

Claim 17 (previously presented): The control circuit as recited in claim 11 wherein the voltage source includes a voltage-limiting circuit and a threshold circuit having an input side, the voltage-limiting circuit being supplied with the operating voltage and having a fourth output operatively connected to a switching path of the threshold circuit, the input side of the threshold circuit being connected to the timer.

Claim 18 (previously presented): The control circuit as recited in claim 9 further comprising a free-wheeling device connected in parallel with the switching path of the second electronic switching device.

Claim 19 (previously presented): The control circuit as recited in claim 10 further comprising a free-wheeling device connected in parallel with the switching path of the second electronic switching device.

Claim 20 (previously presented): The control circuit as recited in claim 11 further comprising a free-wheeling device connected in parallel with the switching path of the second electronic switching device.